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STEM = science, technology, engineering and math

Local programs take 'enrichment' beyond shin guards and leotards

BY LIZ MERFELD OCTOBER 4, 2012 2:00 PM



SUSIE GHahremani

It's worth seeking out fun activities that nurture children's interest in science, technology, engineering and math (STEM). A good STEM education is "as important to being well rounded as soccer, ballet and piano lessons," says UW-

Madison learning science professor David Williamson Shaffer.

It's especially important to expose girls to STEM programs. According to the Girl Scouts Research Institute: "Girls find STEM interesting, but they are hesitant about STEM careers because they see it as an isolating field wherein they cannot benefit their communities." Madison-area STEM programs abound and aim to bust that myth for girls - and boys, too.

Expanding Your Horizons

608-262-1412

Girls in grades 6-8 who might want to major in a STEM subject can get sneak peeks of different careers through Expanding Your Horizons on Nov. 10. In small groups, girls attend hands-on workshops on the UW-Madison campus and take field trips to Edgewood College, MATC, Strand Engineering and other workplaces.

"Engineering is one area that always seems to interest the girls once they understand what it is," says Heather Daniels, senior administrative program specialist. "Unlike many of the other areas, engineering isn't a subject that is taught in middle school."

Registration deadline: Oct. 26. Cost: \$25. Space is limited to 350.

Fractal

2100 Winnebago St.; 608-241-4605

At Sector67, Fractal offers fall weekend classes as well as winter, spring and summer break camps where kids build catapults, solar ovens and more. Heather Wentler, who has a B.A. in elementary education, launched Fractal to help kids

bridge hands-on projects with science and math concepts taught in school.

"Tech/science/math were my worst subjects in school," says Wentler. "It wasn't until college and I started to teach those subjects that I fell in love with them, because I understood them better."

Fractal also offers outreach programs through the Goodman Center, MSCR and the Madison Children's Museum.

"Fractal does more than just teach kids about STEM. We teach social skills, how to think for yourself and how to act like a scientist through success and failure," says Wentler.

Most classes run \$20-\$35; space is limited to 10.

BadgerBOTS Robotics

7615 Discover Dr., Middleton; 608-831-6479

BadgerBOTS offers programs, camps and courses for students in grades 2-12 in Dane County.

In FIRST Lego League (ages 9-14), teams build robots out of Legos and program them to solve real-world challenges (like food safety), culminating in a state championship. Last year, a team of eighth-graders in Madison built a lunchbox whose intellectual property was later purchased by Lands' End. For kids ages 6-9 there is Minor League.

In FIRST Tech Challenge, teens build robots made of metal, plastic and composites that have powerful DC motors and more complex parts. Teens graduate to FIRST Robotics Competition, where robots can be bigger and heavier and the season is highly compressed. The highest awards for both programs are for outreach and "communicating the wonders of engineering and science to improve our lives, for inspiring

others to get involved,” says Ben Senson, BadgerBOTS Robotics Corporation president.

Teams are ongoing throughout the year. Summer 2013 will bring camp, including one girls-only session. \$150 per child for FIRST Lego League, \$40 per child for Minor League.

Girl Scouts of Wisconsin Badgerland Council

800-236-2710, 608-276-8500

“This is our 100th year, and we’ve named it the Year of the Girl, the goal of which is to see 50% of STEM careers held by women within one generation,” says Katie Folts, Badgerland Council’s STEM program specialist.

Today’s scouts earn badges in digital photography, Netiquette and website design. They are also teaming up with BadgerBOTS to offer a Go GirlBOTS robot programming league. Also look for a geocaching day this fall, where girls will learn GPS technology while honing their outdoor skills.

Wisconsin 4-H

Jackie Gehin, Dane County 4-H youth development program advisor, gehin@countyofdane.com; 608-224-3728

It’s not your grandmother’s 4-H anymore. Today STEM is a 4-H project area. 4-H is open to kids in grades 1-12 (in fact, one year out of high school as well).

UW Space Place Saturday Science Workshops

Villager Mall, 2300 S. Park St.; 608-262-4779

The public outreach center for the UW astronomy department, the Space Place offers free workshops with topics like “The Physics of Roller Coasters” and “Building

with Bubbles” every Saturday at 10 a.m. for children ages 6-10 and their parents. No registration is required, but attendance is limited to 50.

Family Science Events

608-265-2600

The UW-Madison Institute for Biology Education’s ARMS Program (Adult Role Models in Science) aims to enhance science education in elementary and middle schools through science fairs, after-school science clubs at various community centers, and other after-school programs. It also offers free Family Science Days/Nights.

Mark your calendars

UW-Madison Science Expeditions

Science Expeditions is a free spring event to be held April 6, 2013, at the Wisconsin Institutes for Discovery to welcome people of all ages to campus to experience science. UW-Madison Technology & Arts

Summer Pre-college Program

Weeklong summer day camps on campus, for students completing grades 5-8, integrate technology and arts. They explore architecture, performance and visual arts, digital photography, and computer design. June 17-21, 2013, \$325, scholarships available.

Wisconsin 4-H

4-H Gateway Academy is a one-week summer day camp for middle school students where they are introduced to engineering concepts and careers through hands-on projects, team building and field trips. 2013 coed camp dates: July 8-11 (Memorial High School) and July 22-25 (Madison East High

School). The program on July 15-18 (Memorial High School) is girls-only -a good thing, since nearly half of all girls say they would feel uncomfortable being the only girl in a STEM group or class.

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